

Message

Sent: 11/3/2017 8:27:04 PM
To: Nickle, Richard (ATSDR/DTHHS/OD) [ran2@cdc.gov]
Subject: RE: Ames Warehouse Fire - background technical info on initial realtime air data from ATSDR emergency response if helpful

Lora Siegmann Werner, MPH
Regional Director, Region 3
Division of Community Health Investigations
Agency for Toxic Substances & Disease Registry (ATSDR)/Centers for Disease Control & Prevention
c/o EPA Region 3
1650 Arch Street
Mailstop 3HS00
Philadelphia, PA 19103

Desk phone: 215-814-3141
Cell phone: 215-588-9778
Fax: 215-814-3003
Emails (only need to use one): lkw9@cdc.gov and werner.lora@epa.gov

****Please note: emails may appear as @epa.gov because we share IT services in our regional office****

From: Nickle, Richard (ATSDR/DTHHS/OD) [mailto:ran2@cdc.gov]
Sent: Friday, November 03, 2017 1:45 PM
To: Werner, Lora <Werner.Lora@epa.gov>; Edge, Charles (ATSDR/DTHHS/OD) <ibd7@cdc.gov>; Helverson, Robert <Helverson.Robert@epa.gov>
Subject: RE: Ames Warehouse Fire - background technical info on initial realtime air data from ATSDR emergency response if helpful

You could send the data, but one reason for the second email was to recognize the differences in the first week vs over the weekend. I think this would just confuse things.

From: Werner, Lora S. (CDC epa.gov)
Sent: Friday, November 03, 2017 1:03 PM
To: Edge, Charles (ATSDR/DTHHS/OD) <ibd7@cdc.gov>; Nickle, Richard (ATSDR/DTHHS/OD) <ran2@cdc.gov>; Helverson, Robert (CDC epa.gov) <helverson.robert@epa.gov>
Subject: Fwd: Ames Warehouse Fire - background technical info on initial realtime air data from ATSDR emergency response if helpful

Should I resend this one to Larry at WV so he has both for whatever website update they are working on? This one explains more of how little we know on analytical side.

Sent from my iPhone

Begin forwarded message:

From: "Edge, Charles (ATSDR/DTHHS/OD)" <ibd7@cdc.gov>
Date: October 27, 2017 at 11:11:13 AM EDT
To: "Werner, Lora S. (CDC epa.gov)" <werner.lora@epa.gov>, "Lindsey, Deborah" <Lindsey.Deborah@epa.gov>, "Helverson, Robert (CDC epa.gov)"

<helverson.robert@epa.gov>, "Markiewicz, Karl (EPA) (CDC epa.gov)"
<Markiewicz.Karl@epa.gov>, "jim.a.rose@wv.gov" <jim.a.rose@wv.gov>, "Colledge,
Michelle (EPA) (CDC epa.gov)" <COLLEDGE.MICHELLE@EPA.GOV>, "Wenning,
Stephanie" <Wenning.Stephanie@epa.gov>, "Wagner, Christine"
<Wagner.Christine@epa.gov>
Cc: Rebecca Fugitt <Rebecca.Fugitt@odh.ohio.gov>, "Phillips, Gene (CDC
odh.ohio.gov)" <gene.phillips@odh.ohio.gov>, "Nickle, Richard (ATSDR/DTHHS/OD)"
<ran2@cdc.gov>, "Funk, Renee (CDC/ONDIEH/NCEH)" <rjf8@cdc.gov>, "Cibulas,
William (ATSDR/OADS)" <wic1@cdc.gov>, "Holler, James S. (Jim)
(ATSDR/DTHHS/OD)" <jsh2@cdc.gov>, "Dieser, Edward (CDC/ONDIEH/NCEH)"
<eyn3@cdc.gov>

**Subject: RE: Ames Warehouse Fire - background technical info on initial realtime
air data from ATSDR emergency response if helpful**

I am resending this document to include the attachments that explain the spikes that have
been recorded along with an AQI table for PM.

Charles Edge
ATSDR ERP

On 10/21/17 Saturday morning at 1230 AM, Parkersburg fire crews responded to a fire at
the Intercontinental Export and Import Company - Plant #1 on Camden Avenue in
Parkersburg WV. The facility is a warehouse housing many plastics-related and other
unknown materials. The fire is still ongoing. The county has the lead in the incident
command, and hired an environmental contractor (CTEH) to conduct air monitoring and
sampling. CTEH is conducting roving realtime air monitoring for particulate matter, and
is also collecting field air monitoring data for other constituents including carbon
monoxide, chlorine, and sulfur dioxide. At the request of WV DEP, in addition EPA
deployed four particulate air monitors around the perimeter of the fire, and began
collecting data on 10/22/17 (Sunday) ATSDR R3, ATSDR R5, and DTHHS ERS are
coordinating with EPA, WV state and local health, and OH state and local health. Air
quality continues to be impacted in both WV and across the river in OH.

Based on the CTEH collected air monitoring data, overall, levels of fine particulate
matter (PM_{2.5}) and course dust particles (PM₁₀) are decreasing since the first recorded
readings (10/23/17) to date. No air sampling analytical data have been made available as
of 10/26/17. However, volatile organic and targeted analyte air sampling is
planned. Below are the trends in the realtime air monitoring collected by various mobile
monitoring devices. EPA has also collected additional air monitoring data and will share
it after completing QA/QC procedures.

10/22-23/17 (EPA PM₁₀ time weighted average monitoring)
Levels of PM₁₀ ranged from 7.6-77.6 ug/m³ and 30.7-764.3 ug/m³.

10/23/17 (CTEH instantaneous PM monitoring)
Levels of PM_{2.5} were highest 0.32 miles from the site at 2,810 ug/m³. Levels of PM₁₀
were highest 1.15 miles from the site at 384 ug/m³. The average of the PM_{2.5} and PM₁₀
readings for all the locations monitored were 241 ug/m³ and 110 ug/m³, respectively. The
highest concentration of SO₂ was recoded at 0.5ppm.

10/24/17 (CTEH instantaneous PM monitoring)

Levels of PM_{2.5} were highest 0.4 miles from the site at 2,210 ug/m³. Levels of PM₁₀ were highest 0.21 miles from the site at 858 ug/m³. The average of the PM_{2.5} and PM₁₀ readings for all the locations monitored were 77 ug/m³ and 96 ug/m³, respectively. The highest concentration of SO₂ was recorded at 0.1 ppm.

10/25/17 (CTEH instantaneous PM monitoring)

Levels of PM_{2.5} were highest 0.25 miles from the site at 531 ug/m³. Levels of PM₁₀ were highest 0.25 miles from the site at 425 ug/m³. The average of the PM_{2.5} and PM₁₀ readings for all the locations monitored were 49 ug/m³ and 41 ug/m³, respectively. No SO₂ readings were recorded.

10/26/17 (CTEH instantaneous PM monitoring)

Levels of PM_{2.5} were highest 3.21 miles from the site at 442 ug/m³. Levels of PM₁₀ were highest 1.47 miles from the site at 24 ug/m³. The average of the PM_{2.5} and PM₁₀ readings for all the locations monitored were 85 ug/m³ and 24 ug/m³, respectively. No SO₂ readings were recorded. The exceedance that was recorded 3.21 miles away was from a residential area. More investigation should be done in these areas. The maximum value could be attributed to the temperature inversion or to the presence of other local sources of PM_{2.5} (e.g., wood-burning fireplaces).

According to the Air Quality Index (AQI) for Particulate Matter, 250.5 to 500 ug/m³ PM_{2.5} on a 24-hour average is considered hazardous. Based on the maximum concentrations only, these areas would be considered hazardous to health. 24-hour averages were not available for the CTEH readings. These are realtime instantaneous readings. The average concentrations above for the CTEH readings are the averages of the total detected instantaneous readings for the day in all monitoring locations. Time weighted averages were not available for the CTEH monitoring locations. Assuming EPA's PM₁₀ 24-hour average results were principally fine particulate matter, these results ranged from the good through the hazardous AQI categories. Aggravation of heart and lung disease are possible under these conditions. People with heart or lung disease should pay attention to symptoms and contact their health care provider if they experience symptoms and reduce their exposure to the impacted air per the incident command's shelter in place recommendations. Sensitive groups should limit prolonged or heavy exertion outdoors, and people with asthma should follow their asthma management plan.

The maximum concentrations that have been seen to date in the CTEH monitoring generally last from 20-30 minutes and then drop below the EPA 24 hour average National Ambient Air Quality Standards for PM_{2.5} of 35 ug/m³ and PM₁₀ of 150 ug/m³. Spikes above these levels have occurred on each of the monitoring days. On 10/23/17, there were 3 spikes above 35 ug/m³. On 10/26/17, there were 7 spikes that occurred over a few hours. This could have been due to a temperature inversion that may have occurred over night. With the absence of meteorological data and changing wind directions, it is difficult to predict these spikes. Terrain steering may also play a role in impacting the direction of the plume. Attached is PowerPoint presentation that denotes these spikes for PM_{2.5}.

Over the past couple of days, the combustion is becoming less efficient and less energetic. The smoke is hugging the ground and there may be more particulate matter in

the air around the fire site. Spikes of higher levels of particulate matter last longer and are more frequent. The air quality hazard going forward may be greater until the fire is extinguished. Additional environmental data are needed to evaluate areas closer to the fire until it is extinguished, including data collection at the closest school(s).

ATSDR has yet to receive safety data sheets (SDSs) or comprehensive information about chemicals at this warehouse, beyond a handwritten list shared by US EPA on 10/21/17 and a concern that significant amounts of DuPont's Rynite thermoplastic polyester resin product may have been present. According to the SDS for Rynite, hazardous gases/vapors produced in fire are carbon monoxide and hydrogen bromide. No chemical laboratory analytical data from the response has been available to ATSDR as of 10/26/17; therefore, there is uncertainty about the overall mixture that was potentially (or might still be) in the air. There have been strong plastics odors as well as typical combustion odors in residential areas and ATSDR does not have information on what would be causing these odors or the public health implications. Strong odors in air can cause symptoms in people. Some people are more sensitive to environmental odors than others. In general, as concentration levels increase, more people will have symptoms. Symptoms vary based on your sensitivity to the odor. Young children, the elderly, and pregnant women may be more sensitive to odors. In general, the most common symptoms from odors are headaches, nasal congestion, eye, nose, and throat irritation, hoarseness, sore throat, cough, chest tightness, shortness of breath, wheezing, heart palpitations, nausea, drowsiness, and mental depression. These symptoms generally occur at the time of exposure. Their intensity will depend on the concentration of the odor in air, how often you smell it, and how long exposure lasts.